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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/788,975	02/27/2004	Noriyuki Matsukaze	FUJE:301	6820
37013 7590 09/09/2009 ROSSI, KIMMS & McDOWELL, I.L.P. 20609 Gordon Park Square, Suite 150 Ashburn, VA 20147				
EXAMINER				
DHINGRA, RAKESH KUMAR				
ART UNIT		PAPER NUMBER		
1792				
MAIL DATE		DELIVERY MODE		
09/09/2009		PAPER		

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary

Application No.

10/788,975

Applicant(s)

MATSUKAZE ET AL.

Examiner

RAKESH K. DHINGRA

Art Unit

1792

Period for Reply -- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 25 June 2009.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-18 is/are pending in the application.
- 4a) Of the above claim(s) 1-3 and 7-9 is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 4-6 and 10-18 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 25 June 2009 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO/S508)
Paper No(s)/Mail Date _____
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date _____
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: _____

DETAILED ACTION

Continued Examination Under 37 CFR 1.114

A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(c), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(c) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on 6/25/09 has been entered.

Response to Arguments

Applicant's arguments with respect to claims 1-18 have been considered but are moot in view of the new ground(s) of rejection as explained hereunder.

Applicant has amended claims 4, 10 by adding new limitations, e.g. in claim 4 new limitation like "said line source comprising (i) a gas distributing pipe distributing the vapor state organic material fed from the material introducing part throughout the line source, (ii) a blocking plate having a number of holes, said blocking plate covering the gas distributing pipe, and (iii) heating means for heating the gas distributing pipe and the blocking plate" has been added.

New references by Nishikawa (US 6,277,201) and Schmitt et al (US 6,596,085) when combined read on limitation of amended claims 4, 10. Accordingly claims 4, 6, 10, 12-18 have been rejected under 35 USC 103 (a) as explained below. Additionally, references by Van Slyke and Iida when combined also read on limitations of amended claims 4, 10 as explained below. Accordingly, claims 4-6 and 10-18 have also been rejected under 35 USC 103 (a) as explained below. Regarding applicant's argument that in Iida, valve 14 is not an exhaust valve, examiner

responds that indication of valve 14 in the last office action was a typo, the correct exhaust valve is 13, as indicated below under claim rejection. Further, regarding applicant's argument that Iida is not a line source, examiner responds that Van Slyke teaches a line source 500VD (Fig. 4). Applicant's arguments regarding Kawai are now moot in view of new ground of rejection of claims 4, 10 as already indicated above and explained below under claim rejections.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 4, 6, 10, 12-18 are rejected under 35 U.S.C. 103(a) as being unpatentable over Nishikawa (US 6,277,201) in view of Schmitt et al (US 6,596,085).

Regarding Claims 4, 6: Nishikawa teaches a deposition apparatus comprising:

a vapor deposition apparatus comprising a line source 36 positioned in a vacuum chamber 30 where deposition occurs, said vacuum chamber being connected to a first exhaustor 33 (through exhaust valve 39), and

a material introducing part 4 (vaporizer) positioned outside of said vacuum chamber, in which pressure can be set independently of the pressure in said vacuum chamber, said material introducing part being connected to exhaust valve in line L3 (second exhaustor),

wherein a vapor-state material is fed into said line source 36 from said material introducing part 4, to form a thin film on at least one substrate 31 disposed inside said vacuum chamber 30,

said line source 36 comprising (i) a gas distributing pipe 40 (intake port) distributing the vapor state material fed from the material introducing part 4 throughout the line source, (ii) a shower plate with multiple openings (blocking plate having a number of holes), said blocking plate covering the gas distributing pipe. Nishikawa also teach that the vaporizer 4 uses a heater to vaporize the coating material and that further another heating device (infrared lamp) can be set-up in the vicinity of the reaction chamber to enable maintain desired temperature as per type of deposition material . Nishikawa additionally teach that his invention is applicable to various types of materials including liquid materials that can be vaporized (e.g. Figs. 1, 2 and col. 2, line 1 to col. 4, line 65).

Nishikawa does not explicitly teach a heating means for heating the gas distributing pipe and the blocking plate.

Claim limitation “heating means for heating -----blocking plate” is not interpreted to invoke 35 USC 112 6th paragraph since the limitation does not satisfy the prong C of the 3-prong analysis, as the limitation is modified by structure {by the term “heating ” before “means for heating” in the claim limitation} for achieving the specified function [Examiner also notes

that disclosure does not disclose any specific structure for the heating means – para. -0022, 0024, 0025 of specification].

Schmitt et al teach a deposition apparatus comprising a deposition chamber 18 and material introducing part 12 (vaporizer), and where the deposition chamber includes a line source 308 with a blocking plate (showerhead) with a plurality of holes 310 and a shadow plate 324 (gas distributing pipe) that distributes the material received from the material introducing part 12 throughout the line source 308. Schmitt et al further teach that the blocking plate 308 and gas distributing pipe 324 (shadow plate) are heated by heating means like resistive heating elements provided in or upon the blocking plate 308 and gas distributing pipe 324 (e.g. Figs 1, 2 and col. 3, line 45 to col. 4, line 65 and col. 7, line 9 to col. 9, line 50) {examiner notes that claim 6 recites "wherein said line source has a blocking plate", which limitation is now included in claim 4 also. Applicant may consider deleting this limitation from claim 6}.

Therefore it would have been obvious to one of ordinary skills in the art at the time of the invention to provide heating means for the blocking plate and the gas distributing pipe as taught by Schmitt et al in the apparatus of Nishikawa et al to obtain complete vaporization of the deposition material before delivery to the substrate.

Further, claim limitation pertaining to organic material pertains to content of apparatus during an intended use and since the structure of prior art meets the structural limitations of the claim, the same is considered capable of meeting these limitations.

In this connection the courts have ruled:

Expressions relating the apparatus to contents thereof during an intended operation are of no significance in determining patentability of the apparatus claim. Ex parte Thibault, 164 USPQ 666, 667 (Bd. App. 1969).

Regarding Claims 10, 12: Nishikawa in view of Schmitt et al teach all limitations of the claim (as already explained above under claim 4) including a substrate 200 that is processed by the apparatus.

Further, claim limitation “forming an organic EL layer” is an intended use limitation, and since the structure of prior art meets the structural limitations of the claim, the same is considered capable of meeting these limitations.

In this connection the courts have ruled:

A claim containing a “recitation with respect to the manner in which a claimed apparatus is intended to be employed does not differentiate the claimed apparatus from a prior art apparatus” if the prior art apparatus teaches all the structural limitations of the claim. *Ex parte Masham*, 2 USPQ2d 1647 (Bd. Pat. App. & Inter. 1987).

Regarding Claims 13-18: Nishikawa in view of Schmitt et al teach the blocking plate 36 has a large number of holes over the whole surface of the blocking plate which enables to supply a uniform vaporized stream of the coating material (Nishikawa – Figs. 1, 2).

Claims 4, 6, 10 are rejected under 35 U.S.C. 103(a) as being unpatentable over Van Slyke (US 2003/0203638) view of Iida (JP 10-092800).

Regarding Claims 4, 6, 12: Van Slyke teach a vapor deposition apparatus comprising:
a line source 500VD (vapor distributor) positioned in a vacuum chamber C where deposition occurs, said vacuum chamber being connected to a valve (first exhauster), and
a material introducing part 500VS1 30 positioned outside of said vacuum chamber C,
wherein a vapor-state organic material is fed into said line source 500VD from said material introducing part 500VS1, to form a film on at least one substrate 11 disposed inside said vacuum

chamber C. Van Slyke also teach a gas distributing pipe (the incoming pipe from the material introducing part 500VS2) distributing the material from the material introducing part 500VS throughout the line source 500VD, and a blocking plate (top wall 501 of the line source 500VD) having a number of holes. VanSlyke also teaches that line source 500VD is heated by a distributor heat lamp 506 (heating means for heating the blocking plate and the gas distribution pipe) to maintain source temperature in the line source 55VD to preclude significant condensation of vapor within the cavity of line source 500VD (e.g. Fig. 4 and para. 0047-0054). Claim limitation "heating means for heating -----blocking plate" is not interpreted to invoke 35 USC 112 6th paragraph since the limitation does not satisfy the prong C of the 3-prong analysis, since the limitation is modified by structure {by the term "heating " before "means for heating" in the claim limitation} for achieving the specified function. {Examiner also notes that disclosure does not disclose any specific structure for the heating means – paras -0022, 0024, 0025 of specification}. Examiner notes that claim 6 recites "wherein said line source has a blocking plate", which limitation is now included in claim 4 also. Applicant may consider deleting this limitation from claim 6}.

Van Slyke does not teach that in the material introducing part the pressure can be set independently of the pressure in said vacuum chamber, said material introducing part being connected to a second exhauster and heating means for heating the gas distributing pipe and the blocking plate.

Lida teaches a deposition apparatus comprising a material introducing part 1 positioned outside a vacuum chamber 15 with a first exhauster (valve 25) and where the material

introducing part 1 has a second exhauster (valve 13) that enables to obtain sublimation refining of the deposition raw material (e.g. Figs. 1, 2 and para. 0013-0032).

Therefore it would have been obvious to one of ordinary skills in the art at the time of the invention to provide the material introducing part with a second exhaust as taught by Iida in the apparatus of Van Slyke to obtain pressure of the material introducing part as per type of material of coating.

Further, claim limitation regarding the use of organic material pertains to content of the apparatus during an intended use, and since the structure of prior art meets the structural limitations of the claim, the same is considered capable of meeting these limitations.

In this connection the courts have ruled:

Expressions relating the apparatus to contents thereof during an intended operation are of no significance in determining patentability of the apparatus claim. Ex parte Thibault, 164 USPO 666, 667 (Bd. App. 1969).

Regarding Claims 5, 11: Van Slyke in view of Iida teach the material introducing part 1 includes a crucible 2 (Fig. 2). Further, Van Slyke teach a material introduction source 500VS disposed outside the vacuum chamber and a crucible holding means 525 for supporting the crucible (e.g. Fig. 4 and para. 0047-0060).

Regarding Claim 10: Van Slyke in view of Iida teach all limitations of the claim (as already explained above under claim 4) including a substrate 11 that is processed by the apparatus.

Further, claim limitation “forming an organic EL layer” is an intended use limitation, and since the structure of prior art meets the structural limitations of the claim, the same is considered capable of meeting these limitations.

In this connection the courts have ruled:

A claim containing a “recitation with respect to the manner in which a claimed apparatus is intended to be employed does not differentiate the claimed apparatus from a prior art apparatus” if the prior art apparatus teaches all the structural limitations of the claim. *Ex parte Masham*, 2 USPQ2d 1647 (Bd. Pat. App. & Inter. 1987).

Regarding Claims 13-18: Van Slyke in view of Iada teach the blocking plate (top surface of the line source 500VD – Fig. 4 – Van Slyke) has a large number of holes over the whole surface of the blocking plate which enables to supply a vaporized stream of the coating material.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to RAKESH K. DHINGRA whose telephone number is (571)272-5959. The examiner can normally be reached on 8:30 -6:00 (Monday - Friday).

If attempts to reach the examiner by telephone are unsuccessful, the examiner’s supervisor, Parviz Hassanzadeh can be reached on (571)-272-1435. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/R. K. D./
Examiner, Art Unit 1792

/Karla Moore/
Primary Examiner, Art Unit 1792